

Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/US05/003307

International filing date: 31 January 2005 (31.01.2005)

Document type: Certified copy of priority document

Document details: Country/Office: US
Number: 60/541,475
Filing date: 02 February 2004 (02.02.2004)

Date of receipt at the International Bureau: 23 March 2005 (23.03.2005)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse

1295762

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

March 14, 2005

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.

APPLICATION NUMBER: 60/541,475

FILING DATE: February 02, 2004

RELATED PCT APPLICATION NUMBER: PCT/US05/03307



Certified by

Under Secretary of Commerce
for Intellectual Property
and Director of the United States
Patent and Trademark Office

020204

16805 U.S. PTO

PTO/SB/16 (01-04)

Approved for use through 07/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No. ER 626782734 US

22151 U.S. PTO

60/541475

020204

INVENTOR(S)					
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)			
Amy L. Tsui	Collins	Oakland, California			
Additional inventors are being named on the _____ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (500 characters max)					
A MATHEMATICAL GAME					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
<input type="checkbox"/> Customer Number: <div style="border: 1px solid black; width: 250px; height: 30px; display: inline-block;"></div>					
OR					
<input type="checkbox"/> Firm or Individual Name: Amy L. Tsui Collins					
Address: 5955 Girvin Drive					
Address:					
City: Oakland		State: CA		Zip: 94611	
Country: USA		Telephone: 5105300310		Fax: 5105300210	
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages <u>10</u>					
<input type="checkbox"/> Drawing(s) Number of Sheets _____					
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76					
<input type="checkbox"/> CD(s), Number _____					
<input type="checkbox"/> Other (specify) _____					
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT					
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.					
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees.					
<input type="checkbox"/> The Director is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: _____					
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.					
FILING FEE Amount (\$)					
<div style="border: 1px solid black; width: 100px; height: 40px; display: inline-block; line-height: 40px;">80.00</div>					
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

[Page 1 of 2]

Respectfully submitted,

SIGNATURE



TYPED or PRINTED NAME Amy L. Tsui Collins

TELEPHONE (510) 530-0310

Date February 2, 2004

REGISTRATION NO. 33,370

(if appropriate)

Docket Number: ALTC20040001

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Provisional Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

A MATHEMATICAL GAME

This application is related to application entitled "A Chemistry/Physics Game" (Attorney Docket No. ALTC20040002) filed the same day.

FIELD OF THE INVENTION

[001] This application relates to the field of games, in particular, education games, such as a mathematical game, a science game including a biology game, a chemistry game, and a physics game.

BACKGROUND OF THE INVENTION

[002] People, in particular, children and teenagers, can learn in the context of game playing. Games are typically more fun than studying. Thus, if educational materials can be put in the context of games, and the games can be played over and over again, it will create a fun environment for learning. In particular, if games are played between adults and children, the exercise will promote more interaction between them.

[003] Further, strategy and problem-solving are important skills to acquire for work purposes. These skills can also be learned in the context of games. Additionally, games can be designed to be played in teams, thus fostering cooperation between players.

[004] Moreover, games can be tailored or adapted to make them age-appropriate so that people of all ages can play including pre-schoolers, kindergarteners, children in elementary schools, middle schools, junior high schools, high schools, college as well as adults.

[005] Thus, it will be very desirable to design an educational game, such as a mathematical game, that can help people learn outside of a school setting, to help them improve or acquire skills and knowledge, for example, in the fields of mathematics and science.

SUMMARY OF THE INVENTION

[006] It is, therefore, one of the objects of the present invention to provide a game that is educational, that can be played by people of all ages, or that can be tailored to make it age appropriate.

[007] It is another one of the objects of the present invention to provide a method for playing the foregoing game.

[008] It is another one of the objects of the present invention to provide for a method of playing the game electronically, such as by accessing the game on the Internet or on a computer disk.

[009] In accordance to one of the objects of the invention, there is provided a game set, where the game set contains a plurality of sets of tiles. In one embodiment of the invention, there is provided a first set where each tile contains a number or an alphabet, and a second set where each tile contains a symbol, such as a mathematical symbol.

[010] In accordance to another one of the objects, there is provided a game set as above, where the game set includes instructions for playing the game.

[011] In accordance to another one of the objects, there is provided a method for playing a mathematical game, where the method includes providing a game set as above and allowing the game to be played.

[012] In accordance to yet another one of the objects, there is provided a software program, where the program is configured to allow the game as above to be played electronically, for example, through use of a computer disk, a CD, or through Internet access.

[013] Further objects, features, advantages and objects of the present invention will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples herein be considered as exemplary only, with a true scope and spirit of the invention being indicated by the claims herein.

DETAILED DESCRIPTION OF THE INVENTION

[014] The inventor herein has discovered a novel mathematical game that can be played by people of all ages that have an educational component and a fun component. The present invention provides for a game set that contains a plurality of sets of tiles or cards. For easy reference, all tiles and cards will be referred to herein as tiles, with the understanding that the present game can be played in the form of playing card. Each tile herein contains a number, an alphabet, a symbol, a wild number (which can be played as

any number), a wild symbol (which can be played as any symbol), a wild alphabet (which can be played as any alphabet), or the word "log."

[015] The number on the tile can be any number. In one embodiment of the invention, the number is any number chosen from among: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10. In another embodiment, the number is chosen from among any number between 0 and 100. In another embodiment, the number is chosen from among any number between 0 and 1000. In a further embodiment, the number is chosen from among any number between 0 and 10,000.

[016] The number on the tile can be in any language. Further, the number can be a superscript number, a subscript number or a regular number. The alphabet on the tile can also be in any language.

[017] The symbol of the present invention includes any symbol commonly used in mathematical equations, including, for example, a plus symbol ("+"), a minus symbol ("-"), a multiplication symbol represented by ("x") or an asterisk ("*"), a division symbol ("÷"), a square root symbol such as ("√"), a "log" notation, an open parenthesis ("(", a close parenthesis (")"), a first open bracket ("["), a first close bracket ("]"), a second open bracket ("{"), a second close bracket ("}"), a greater than symbol (">"), a smaller than symbol ("<"), an equal sign ("=") and the like.

[018] The number, alphabet or symbol can be placed on the tile by any conventional means, such as by printing, pressing, inscribing, or carving such on the tile or by pouring of a mold. The number, symbol of alphabet can be painted or not.

[019] The tile can be made of any suitable stiff material, such as wood including pressed wood, paper including recycled paper, or cardboard, or metal, or alloy, or other synthetic materials, such as plastic, or animal bone. The material can be painted or stained or not.

[020] The tile can be of any size. In one embodiment of the invention, the tile is made smaller for young children and larger for adults. It is of a size that is easy to handle or hold. For example, the size of the tile can be the same as the mahjong tiles or the Rummikub tiles. The tiles can be in the form of playing cards as well, and can be the same, smaller or larger than the conventional playing cards.

[021] The tile can be of any shape. In one embodiment, the tile is of a square shape or a rectangular shape. In another embodiment, the tile is of a triangular shape or a circular shape. In a further embodiment, one set of tiles can be of one shape and another set of tiles can be of a different shape. For example, the numbers can be square or rectangular in shape, while the mathematical functions are triangular or circular in shape or vice versa, or any variations thereof.

[022] The tile of the present invention can be of any suitable thickness. In one embodiment, the tile is relatively thin, such as less than $\frac{1}{2}$ inch. In another embodiment, the tile is relatively thick, such as greater than $\frac{1}{2}$ inch.

[023] In one embodiment of the present invention, the game set includes a plurality of stands. Each stand is made to contain a plurality of tiles. For example, as a player picks a tile, the player will be able to place the tile on the stand so that the player can see the face of the tile, without having to hold onto the tile and without showing the tile to the other players.

[024] The stand can be made of any suitable material, and can be made of the same material as the tile or not. For example, the stand can be made of wood, paper, metal, alloy, synthetic material or bone, as above.

[025] In another embodiment, there is provided a set of instructions or rules for playing the game. The instructions will provide for how the game is to be played. It is to be understood that the game of the present invention can be played in a variety of ways, depending on the creativity of the players. Hence, the players may play the game according to the players' own rules. The instructions and rules will be considered as suggestions.

[026] In one embodiment of the invention, the instructions will include a purpose for the game. The purpose can be, for example, for each player to lay down full equations. Such full equations can be, for example, $1 + 1 = 2$, or $10 - 1 = 9$, or $2 \times 2 = 4$, or $8 \div 4 = 2$, or $(2 \times 2)^2 = 16$.

[027] In another embodiment of the invention, the instructions can provide that the first player to dispose of all of his or her tiles wins the game.

[028] In another embodiment of the invention, the instructions can provide that scores be kept. There are different ways to keep scores, again depending on the players'

creativity or desire. For example, the result obtained by each equation can be a player's score, and the player can add up all the scores for all the equations the player laid down during the game.

[029] In a further embodiment, there is provided a plurality of sets of tiles as above, where each tile contains an alphabet. In one embodiment, such alphabet tile can be used in an algebraic equation, such as $(a + b)^2 = a^2 + 2ab + b^2$. In this embodiment, the alphabet can be in any language.

[030] In yet another embodiment of the invention, there is provided a method of playing a game, where the method includes providing a game set and allowing the game to be played. In another embodiment, the method includes providing instructions or rules for playing the game as above.

[031] In one embodiment of the invention, the game is played by each player laying down an equation during the player's turn. In a further embodiment of the invention, a player may re-arrange the equations provided that all the tiles that are being re-arranged are placed in another equation.

[032] In another embodiment of the invention, the game can be played at different levels of difficulty by removing or adding one or more mathematical functions. For example, an adult playing with a child can include only addition functions, or only subtraction functions, or both and remove the other functions. Optionally, multiplication functions can be included but not division functions. Still optionally, all mathematical functions can be included to increase the challenge.

[033] In another embodiment, there is provided a software program, where the program is configured to provide the game set as above, and to allow the game to be played. The software can be provided on a computer disk or CD, or DVD, or an electronic medium such as a hand held device, for example, a Palm Pilot, a cell phone and the like. The game can be made accessible on the Internet.

[034] While the present invention has been described with reference to the specific embodiments thereof, it should be understood by those skilled in the art that various changes may be made and equivalents may be substituted without departing from the true spirit and scope of the invention. In addition, many modifications can be made to adapt a particular situation, material, composition of matter, method or process steps to the

objective, spirit and scope of the present invention. All such modifications are intended to be within the scope of the claims appended hereto.

[035] What Is Claimed Is:

1. A game set comprising a plurality of sets of tiles (defined to include cards, or a picture of tiles, or a picture of cards), wherein the plurality of sets of tiles comprises:
 - (a) a first set of tiles, wherein each tile comprises a number or an alphabet; and
 - (b) a second set of tiles, wherein each tile comprises a symbol.
2. The game set of claim 1, further comprising:
 - (c) instructions for playing the game.
3. The game set of claim 1, further comprising a third set of tiles, wherein each tile comprises a wild number (define to represent any number).
4. The game set of claim 1, further comprising a fourth set of tiles, wherein each tile comprises a wild symbol (define to represent any symbol).
5. The game set of claim 1, further comprising a fifth set of tiles, wherein each tile comprises a number in superscript.
6. The game set of claim 1, wherein the number is selected from the group consisting of: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.
7. The game set of 1, wherein the number is any number chosen from between 0 and 100, or between 0 and 1000, or between 0 and 10,000.
8. The game set of any of the foregoing, wherein the symbol is selected from the group consisting of: a plus (“+”), a minus (“-”), a division symbol (“÷”), a multiplication symbol (“x”), an equal sign (“=”), an open parenthesis (“(“), a close parenthesis (“)”), a first open bracket (“[“), a first close bracket (“]”), a second open bracket (“{“), a second close bracket (“}”), a greater than symbol (“>”), and a smaller than symbol (“<”).
9. The game set of claim 5, wherein the number in superscript is selected from the group consisting of: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.
10. The game set of claim 1, further comprising a sixth set of tiles, wherein each tile comprises the term “log.”
11. The game set of claim 1, further comprising a seventh set of tiles, wherein each tile comprises a number in subscript.

12. The game set of claim 11, wherein the number is subscript is chosen from among 0, 1, 2, and 10.

13. The game set of any of the foregoing, further comprising a box that contains the plurality of tiles.

14. The game set of any of the foregoing, wherein the game set is programmed to run on a disk.

15. The game set of any of the foregoing, wherein the game set is accessible on the Internet.

16. The game set of claim 2, wherein the instructions comprise at least one selected from the group consisting of:

- (a) how many players can play the game;
- (b) how many tiles or cards each player should pick at start of the game;
- (c) how many points each player needs to have to begin participating in the game;
- (d) how to keep score;
- (e) how to determine a winner;
- (f) how to play the game; and
- (g) rules of the game.

17. The game set of claim 16, wherein the rules comprise at least one selected from the group consisting of:

- (a) to start the game, turn all the tiles with face down;
- (b) each player to pick at least 10 tiles with the face down;
- (c) players to take turns playing, by either laying down one or more tiles during the player's turn or picking a tile if the player is unable to lay down any tiles;
- (d) to start participating in the game, a player must lay down tiles using a combination of numbers and symbols, with their face up, where the numbers and symbols represent an equation, and the equation is a correct equation;
- (e) players can keep score by adding the face value of one or more components of the equation or by the number obtained as a result of the equation laid down;

(f) if a player does not have any tile to lay down during the player's turn, the player will have to pick a tile from a pool of tiles laying face down, wherein the pool can be a combined pool of numbers and symbols or can be separate pools of numbers and symbols, and the player may pick from one or the other pool;

(g) if a player has at least one tile to lay down, player may rearrange any equation that has been previously laid down, provided that all the numbers and symbols that have been rearranged are correctly used to recreate same or different equation;

(h) a player wins the game when the player has laid down all of his or her tiles;

(i) if scores are kept, the player with the highest score wins at end of game session; and

(j) a player who has laid down all of his or her tiles may continue playing the game by picking tiles during his or her turn.

18. The game set of claim 1, further comprising a holder to contain the tiles.

19. A method of playing a mathematical game, comprising the steps of:

(a) providing the game set of claim 1; and

(b) allowing the game to be played.

20. The method of claim 19, further comprising the step of providing instructions for playing the game.

21. A software program for a mathematical game, wherein the program is configured to display the game set of claim 1, and to allow the game to be played.

ABSTRACT OF THE DISCLOSURE

A game is provided that includes a plurality of sets of tiles or cards or an electronic version thereof, where each tile or card contains a number, an alphabet, or a mathematical symbol or a symbol that can be used in a mathematical equation. Also provided is a method of playing this game by each player taking turns to lay down equations.